Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ENTOMOLOGY.[1]

North Ameridan Ceutophili.—This interesting group of wingless locustarians has been monngraphed in a very satisfactory manner by Mr. S. H. Scudder.[1] "With the exception of the genus Troglophilus Krauss, with two species from European caverns, and the genus Talitropis Bol., with a single species from New Zealand, placed respectively at one and the other end of the series, they are known only from America; and with the further exception of Heteromallus Brunner, with two species from Chili, they are all peculiar to the United States and Northern Mexico. Here they include six genera and sixty-seven species, the genus Ceutophilus alone containing above fifty species. The larger proportion of them, if not all (excepting *Udeopsylla nigra*) frequent dark places, such as burrows, pits, caverns, wells, hollow trees, and especially the crevices beneath fallen logs." Thirty-eight new species are characterized in the present paper, in which the treatment, except for the absence of illustrations, is all that could be desired.

The Plume Moths.—A study of the biological relations of the earlier stages of the plume months convinces J. W. Tutt[3] that these insects belong to two distinct families, the Pterophorina and the Alucitina. The latter (called Orneodinæ by Fernald and others) "belong to the Pyraloid section of the Obtectæ, the larva of which has a complete circle of hooks to the ventral prolegs, and the pupa of which is smooth and rounded, laterally solid, inner dissepiments flimsy. The free segments in both sexes are the fifth and sixth abdominal.

"The Pterophorina belong to the Incompletæ and have no affinities with Alucitina. Both groups have under the same or similar necessities developed plume wings and this is the only connection. The pupa is attached by a cremaster, less solid and rounded, appendages often partially free. Free segments may extend up to the third abdominal."

In emphasizing the necessity of biological studies in classification, Mr. Tutt quotes with approval, the recent dictum of W. H. Edwards: "There never will be a final authoritative revision of any genus of butterflies till the preparatory stages in every species of it are known."

---

[1] Edited by Clarence M. Weed, New Hampshire College, Durham, N. H.

[2] Proceedings Amer. Acad., VXXX, pp. 17–113.

[3] Ent. News, V, 209.

New Use for Bisulphide of Carbon.—Professor J. B Smith acting on the suggestion of Professor H. Garman finds by experiment that bisulphide of carbon can be used to advantage against aphides on plants above ground. By covering infested melon vines with a tub or other closed vessel, and allowing a drachm of bisulphide to evaporate in a shallow dish beneath it, the pests were killed at the end of one hour. The coverings were then removed.

Mimicry in Diptera.—Mr. C. J. Wainwright reports[4] interesting observations on mimicry of Diptera flying in England in early spring. Two species of the Syrphid genus Cheilosia so resembled bees of the genus Andrena as to make it very difficult to distinguish them. "They particularly resembled *Andrena fulva,* and we netted far more of the bee than of the Dipteron in our efforts to get the latter. The resemblance is very strong, color, size, and (to a considerable extent) shape being much the same; when at rest on a flower the Dipteron curls its body under a little as the bee does, and folds its wings over its back in the same manner."

There was also present a species of Echinomyia of the family Tachinidæ, which had a bee-like appearance, differing in this respect from other members of its genus. "It, however, resembled no species in particular; it bore a general resemblance to *Bombus muscorum* in size, shape and color, but it was not so hairy and did not fold its wings bee fashion."

In commenting on these observations Mr. Wainwright says: "There is very little doubt that in the spring, when insects are not very numerous, and when, therefore, we may reasonably infer that their enemies are unusually alert in discovering and capturing them, that it must be even more necessary than during the summer, for those insects which do appear, to be well protected in some way from their foes, and especially if they happen to be species which, through feeble reproductive powers or other similar causes, are limited in numbers to commence with. Now, the two Cheilosiae are distinctly species which are limited in numbers, in fact, they are somewhat rare species, and may be described as occurring singly; they are not robust species, in fact, rather the reverse, and, therefore, they are just such species one would expect to find protected by mimetic resemblances. In every way they may be said to present all requirements of an ordinary case of mimicry.

"The Echinomyia, however, does not present so ordinary a case. It is a wonderfully strong and robust species, belonging to a group of parasitic species, all of which are strong and robust, and ordinarily neither need nor possess any such protection as a mimetic resemblance. It is well protected on the body by strong hairs, answering, to some extent, the purpose of spines, and is very strong on the wing; it is very large, too, many specimens being 8 or 9 lines long. It, however, occurs at this time (March) when other insects are scarce, and it must be conspicuous and so tempt its foes, and although common on this particular occasion at Wyre Forest, I do not think it is usually a common species, at least, I never saw it before; altogether, although it does not answer the usual requirements of a mimetic species, yet there are obviously good reasons why a resemblance to the strong and usually unmolested Bombi would be an advantage to it. We accordingly find that it does possess some such resemblance, though imperfect, and it is just this imperfection which is its most interesting feature, and it is to some extent the reason for these notes.

---

[4] Ent. Monthly Magazine.

" Many or all of the opponents of the theory of mimicry urge very strongly the difficult question, how does the resemblance arise? In early stages it can be of no use to its possessor. But here, I think, we have a case showing how mimicry may arise, and even the early stages be of use. The Tachinidæ do not, as a rule, resemble in the least degree any Hymenoptera, they are quite unlike bees. The Echinomyia are a genus of unusually large and well developed Tachinids, some of which (fera and ferax for example) are simply ordinary Tachinids in appearance, though unusually large, and quite unlike bees; they are summer species; Ursina, however, a spring species, though closely allied to these others by a comparatively slight alteration in color, a development rather than an alteration, and the increase of its hairs in number and size, at once and unexpectedly somewhat resembles *Bombus muscorum*, and almost certainly must derive some protection from even this superficial resemblance, at a time when food is being so eagerly sought by insect foes. It only needs a still further increase in hairiness, and to fold its wings over its body, and it would be an almost perfect mimic; and supposing its nearest allies to be lost, we should wonder how the early stages arose."

Description of a New Pelecinus from Tennessee.—The genus *Pelecinus* forms a peculiar family allied to the Proctotrupidæ, in the Antigynea, among the highest Aculeate hymenoptera. The costal vein in rare instances is not developed, showing a transition to the higher non-aculeate monotrocha or Hymenoptera minuta. The larval habits are unknown, although the imago has been observed issuing from the ground and locust eggs are possibly its food. The discovery of a new species is therefore of interest.

The antennæ are fourteen-jointed in both sexes, those of the male longer. The mandibles, armed with a tooth near the apex within, and the labial palpi show no sexual difference. The maxillary palpi, long in the female, are not visible in the male. The middle and the hind tibiæ are two-spurred in both sexes; the hind tibiæ greatly swollen in the female, are no more swollen than the femora in the male. The first joint of the hind tarsi in both sexes is as short as the last joint.

The abdomen of the female is elongate, cylindric, six-jointed, with a seventh dorsal joint connate with the sixth; sting minute; the abdomen of the male is cup-shaped, likewise six-jointed; claspers directed forwards beneath. In the male abdomen the first segment is three times as long as all the rest combined, gradually enlarged towards the extremity; the third and fourth segments are longer above than beneath; the fifth and sixth segments are vertical, invisible from above.

PELECINUS BRUNNEIPES, n. sp.

Female.—Size of *dichrous.* Disc of propodeum behind puncto-reticulate. An oblong brown cloud in the first submarginal cell behind the stigmal cloud. Legs piceous-brown; middle and fore tibiæ and tarsi clay-yellow. Tenth and apical half of ninth joints of atennæ whitish. The whole insect otherwise shiny black.—One specimen collected at Marysville by Prof. E. M. Aaron.

In *P. polycerator,* which is of larger size, the disc of propodeum behind is transversely arcuately rugose, the depressions punctate; there is no separate cloud in the wing; and the legs, except tarsi, are entirely black.

PELECINUS DICHROUS Klug.

Specimens of this South American species, kindly sent me by Prof. Carl Berg, of Buenos Ayres, show the disc of the propodeum behind transversely rugose in the female and longitudinally rugose in the male. The female has the ocellar tubercle, the clypeus, a spot above clypeus, a spot at base of mandibles, the thorax (especially above) red; the legs more or less brownish; the tenth joint and apex of ninth joint and base of eleventh joint of antennæ orange. The male has none of the red shown in the female and the atennæ are entirely black.

WM. HAMPTON PATTON.

Flight of Locusts.—Mr. C. B. Mitford gives an interesting account[5] of what was, he says, a more marvellous sight than any he has ever seen. The changed appearance of the "bush" at Freetown, Sierra Leone, on the 25th of November, 1893, led him to call the attention of a native, who told him that locusts were coming. In a short time huge black clouds appeared above the hills, and these first seen gave the idea that the whole of the sides of the hills, three miles off, were on fire; at 2.45 p. m. these supposed clouds reached Freetown and proved to be a continuous mass of locusts, which passed without intermission till 5.10 p. m. Myriads settled, but made no apparent difference in the size of the swarms. The whole town was covered with their excrement. At 9.45 a. m. the next day the stream began again, but not in such dense masses, and continued up to 1 p. m. The species has been found to be *Pachytylus migratoroides* originally described from Abyssinia.—*Journal Royal Microscopical Society.*

---

[5] Proc. Zool. Soc. Lond., 1894, p. 2.